

## Bill's Building Blocks

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### Losers and Losers: A Less Than Zero Sum Game

I just returned from speaking about the growing supply chain skills gap at Argyle's S&OP Innovation Summit held in Las Vegas. Some of the topics addressed the early application of artificial intelligence and machine learning technology to Sales and Operations Planning. But one underlying theme at the summit was the need to learn how to sense, plan, and respond faster to supply chain interruption. Such interruption is being driven worldwide today by Brexit and by trade wars with China, Canada, Mexico, and the European Union. Although the pace of change has clearly accelerated, the fundamentals of supply chain management have not changed. In spite of the digital revolution, a solid understanding of the basics has never been more important! Let's look at the basic hidden costs of some recent supply chain coping strategies:

- Hoarding inventory – Some materials such as rare earth metals are only available from a limited supply base. Hoarding requires a significant upfront cash investment; such investment could have been used for new products or productivity gains. While production is able to continue until this inventory runs out, it may be impossible to predict which way market pricing will go before inventory shortages are resolved.
- Every sale with a different supply chain – This is a highly reactionary strategy of switching a SOURCE, MAKE, DELIVER, or RETURN trading partner when it becomes impossible to achieve cost targets. Unfortunately, there is probably insufficient time to properly vet the new trading partner to ensure reliable delivery.
- Three way trades – As an example, China switches its purchase of soybeans from the U.S. to Brazil. The U.S. turns to Brazil as its new soybean market to backfill Brazil's inventory which is now being sold to China. However, Brazil's demand is not nearly as large as the U.S. supply, so U.S. farmers lose big time.
- Re-shoring – If the market and supply base are domestic, then re-shoring may make sense. However some product components have very long product life cycles and cannot be returned economically to the U.S. because China's labor rate has increased more than 250% over the past ten years. Re-shoring works best for new products having high material and low labor but requires significant engineering to marry product design with robotics and other advance manufacturing techniques.

While some feel that a trade war interruption is an opportunity to win share in a zero sum game, there are only losers and losers in such a less than zero sum game.

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